

AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A laminated optical disc manufacturing apparatus comprising:

an adhesive applier that applies applying device adapted to apply an adhesive to a first substrate, ~~forming an adhesive layer having a specific thickness between the first substrate and a second substrate superimposed onto the first substrate;~~ and

a laminator configured to superimpose a second substrate onto the first substrate to form an adhesive layer having a specific thickness between the first and second substrates;

a suctioner that suctions suction device adapted to suction the adhesive layer formed between the first substrate and the second substrate with a predetermined suction force;

a layer thickness measurer that measures a thickness of the adhesive layer between the first substrate and the second substrate;

a layer thickness difference detector that determines an adhesive layer thickness difference between the measured adhesive layer thickness and a target adhesive layer thickness; and

a controller that controls at least the adhesive applier based on the adhesive layer thickness difference.

2. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 1, further comprising a provisional bonder that bonding device adapted to partially cures ~~cure~~ the suctioned adhesive layer to partially bond and provisionally fasten the first substrate and the second substrate.

3. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 1, wherein the apparatus is configured to use the adhesive comprising a radiation cure resin as the adhesive.

4. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 1, wherein the apparatus is configured to use the adhesive comprising a thermoplastic resin as the adhesive.

Claim 5 (Canceled)

6. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 1, further comprising:

a spreader that spreading device adapted to integrally rotates rotate the superimposed first substrate and second substrate at a predetermined application rotational speed;

wherein the adhesive applier applying device is further adapted to apply the adhesive at the predetermined application rotational speed onto a predetermined radial position on a first surface of the first substrate, the adhesive forming an annular mound having a top edge of a narrow peak shape in cross section;

wherein the second substrate is superimposed onto the first substrate by contacting the top edge of the annular mound with the second substrate; and

wherein the annular mound is spread from the predetermined radial position toward an outside circumference of the first substrate to form the adhesive layer between the first substrate and the second substrate.

7. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 2, the provisional bonder bonding device further comprising a centerer entering cylinder insertable within a common center hole of the superimposed first and second substrates, the centerer entering cylinder comprising at least two contact pins which retractably extend in substantially opposite directions and press against an inside circumferential edge of the center hole in the superimposed first and second substrates.

8. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 7, the provisional bonder bonding device being further adapted to cure the suctioned adhesive layer in proximity to the center hole in the superimposed first and second substrates.

9. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 2, further comprising a bonder that bonding device for completely cures curing the partly cured adhesive layer and completely bonding the first and the second substrates throughout the adhesive layer.

10. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 2, further comprising a warping preventer prevention device that provisionally bonds a partially bonded portion of the first and the second substrates and prevents preventing deformation of the provisionally bonded first and second substrates.

11. (Currently Amended) The laminated optical disc manufacturing apparatus according to claim 1, further comprising:
an adhesive supply source that supplies adapted to supply the adhesive to the adhesive applier applying device, the adhesive being controlled to have a first predetermined temperature; and

a defoaming tank adapted to remove bubbles from the adhesive at a second predetermined temperature, the second predetermined temperature being higher than the first predetermined temperature.

12. (Original) The laminated optical disc manufacturing apparatus according to claim 11, the adhesive supply source comprising:

an adhesive recovery tank for recovering adhesive unused in the formation of the adhesive layer; and

a filter adapted to filter the recovered adhesive at a third predetermined temperature higher than the first predetermined temperature;

wherein the defoaming tank is further adapted to remove bubbles from the filtered adhesive.

13. (Original) The laminated optical disc manufacturing apparatus according to claim 12, wherein the second predetermined temperature is equal to the third predetermined temperature.

14. (Currently Amended) A laminated optical disc manufacturing method comprising:

applying an adhesive to a first substrate to form an adhesive layer having a specific thickness between the first substrate and a second substrate superimposed onto the first substrate; and

superimposing a second substrate onto the first substrate to form an adhesive layer having a specific thickness between the first and second substrates;
suctioning the adhesive layer formed between the first substrate and the second substrate with a predetermined suction force;
measuring a thickness of the adhesive layer between the first substrate and the second substrate;
detecting a difference between the measured adhesive layer thickness and a target adhesive layer thickness; and
controlling the adhesive applying based on the adhesive layer thickness difference.

15. (Original) The laminated optical disc manufacturing method according to claim 14, further comprising:

partially curing the suctioned adhesive layer to partially bond and provisionally fasten the first substrate and the second substrate.

16. (Currently Amended) The laminated optical disc manufacturing method according to claim 14, further comprising:

rotating the superimposed first substrate and second substrate at a predetermined spreading rotational speed;
applying the adhesive at the predetermined spreading rotational speed onto a predetermined radial position on a first surface of the first substrate, the adhesive

forming an annular mound having a top edge of a narrow peak shape in cross section; and

wherein superimposing the second substrate onto the first substrate further includes by contacting the top edge of the annular mound with the second substrate and [[;]] wherein the annular mound is spread from the predetermined radial position toward an outside circumference of the first substrate to form the adhesive layer between the first substrate and the second substrate.

17. (Currently Amended) The laminated optical disc manufacturing method according to claim 14, further comprising inserting a centerer centering cylinder within a common center hole of the superimposed first and second substrates, the centerer centering cylinder comprising at least two contact pins which retractably extend in substantially opposite directions; and pressing the at least two contact pins against an inside circumferential edge of the center hole to align the superimposed first and second substrates.

18. (Original) The laminated optical disc manufacturing method according to claim 17, further comprising curing the suctioned adhesive layer in proximity to the center hole in the superimposed first and second substrates.

19. (Previously Presented) The laminated optical disc manufacturing method according to claim 15, further comprising completely curing the partly

cured adhesive layer and completely bonding the first and the second substrates throughout the adhesive layer.